DETAILED ACTION

1. The following is a final office action in response to the amendments filed 2/16/10. Amendments received on 2/16/10 have been entered. Claims 11 and 16-18 were previously cancelled. As per applicant, claims 12 and 19-21 have been cancelled. Accordingly claims 7-10, 13-15 and 22-31 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 7-9, 14, 15, 22-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bandy et al. (6,002,344) in view of Heng (6,538,563) ,in view of Augenblick et al. (3,944,928) and further in view of Barret, Jr. (4,471,345).

As of claim 7, Bandy discloses an IC tag (via a RFID tag 102, see fig. 3) for transmitting first information to a reception unit while avoiding collision with transmitted information other I C tags which transmit information to the reception unit (via avoiding contention among different tags; see abstract), comprising:

a memory which memorizes the first information (via tag having the tag ID as the first information) and second information (via tag 102 having a manufacture number; see

col. 3, lines 8-17) (note: it is inherent that RFID tag have memory to store the identification number and other data to transmit to the reader) (see col. 3, lines 8-18); and a memory address counter in which its count value indicates a bit address of the first memory (via counter/shift register 312, see fig 3) (also see col. 5, lines 4-8) (note: Bandy discloses that the tag transmits it tag ID when the value in the counter is same as of tag ID, since the ID is stored in the memory and the counter is indicating the value of the ID, Bandy discloses a counter in which its value indicates a bit address of the memory; see col. 5, lines 4-9) (In the office action, below the tag ID, manufacture number and the lot number can be used as first information and second information and third information since claims does not specify which information is indicating the tag ID number or other numbers)

wherein the IC tag carries out count-up or count-down of a count value of the counter according to a clock signal received from the reception unit (via counter 312 increment its count when it receives the clock signal from the reader unit; see col. 1, lines 63-67) and the IC tag sets the second information of the second memory as an initial value of the counter and after the count value of the counter reaches a specified code, the first information stored in the bit address indicated by the count value is sent out to the reception unit successively (via tag transmitting the tag ID or manufacture number or lot number when the counter value matches any one of the tag ID or manufacture number or lot number (see col. 7, lines 12-33; also see col. 5, lines 4-20).

However Bandy fails to explicitly disclose that the second information control the time of transmission of the first information to the reception unit.

Heng discloses an IC tag (via transponder 1) which comprises a first information (via ID code 16; see fig. 8) and second information (via random number generator 12, generating a random number; see fig. 8, also see col. 4, lines 7-16). Heng discloses that the second information (random number) controls the time of transmission of the ID code to the interrogator 2 (via transponder 1 transmitting the ID code to the interrogator at the time when the counter value is equal the random number generated by the random number generator; see col. 4, lines 17-28).

From the teaching of Heng it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bandy to include use the second information to control the time of transmission of the first information to the reception unit as taught by Heng in order to avoid collision and expedite the process of interrogation.

From the teaching of Bandy and Heng, it can be seen that the tag uses the random number generator 12 to generate a random number and increments the counter 14 each time a slot marker signal is received from the interrogator (see Heng, col. 4, lines 7-14), hence setting the second information as an initial value of the memory address counter (counter 14) and counting up the counter 14. Bandy further discloses that the tag increments the counter 312 (see fig. 3) when it receives a clock signal from the interrogator (see fig. 5; also see col. 7, lines 1-10). Further the interrogator of Bendy transmits the clock signal continuously until the counter 312 reaches the specified number, in this case when the count in the counter matches the Tag ID (see col. 7, lines 5-10). However the combination of Bendy and Heng fails to explicitly disclose that the

clock signal is transmitted by the interrogator using a carrier modulation signal modulated by a continuous clock signal.

Augenblick discloses a communication system, wherein an interrogator (via transmitter 12; see fig. 12), transmits a carrier modulated signal modulated by a clock signal (see col. 15, lines 66 through col. 16, lines 5).

From the teaching of Augenblick it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Bandy and Heng to include the step of transmitting the clock signal using a carrier modulated signal modulated by a clock signal as taught by Augenblcik in order to transmit the data and clock using a single signal.

Note: It is the Examiner's position that in view of Heng it would have been obvious to one having ordinary skill in the art to use a down counter instead of an up counter, because that would simply be a design choice, because as taught in Heng, the first transponder 1A has a random number of two, the first transponder receives the two slot markers 3 from the interrogator 2 and each time one of the slot markers 3 is received, the first transponder counter is incremented by one, as soon as the first transponder's counter contains the same number of counts as the random number associated with the transponder, the transponder transmits its identification code (see col. 4, lines 20-27). This description suggests that the counter knows the number generated by random number, so it would have been obvious that the counter can count down from that number, whenever a slot marker is received and then the transponder can transmit the identification code, when counter reaches zero. In order to further

support the Examiner's assertion, Barrett, discloses a communication system, wherein a tag contains an identification code (first information) and a pseudorandom generator containing second information (see fig. 5; also see abstract; also see col. 20, lines 5-25). Barret further discloses that the information in the pseudorandom generator is loaded into a down counter (memory address counter) and then the down counter is decremented with a clock signal, and the tag transmits the identification code of the tag when the down counter reaches zero (see col. 20, lines 55-66). Further note, since the random number in the random number generator is set into the down counter (memory address counter) down counter will have the same bit number as the random number generated by the random number generator. Barret further disclsoes that each tag will transmit at random intervals and it will avoid collision with the transmission from other IC tags (see col. 19, lines 10-25).

From the teaching of Barret it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Bandy and Augenblick to include the function of including a down counter as taught by Barret, so each tag will transmit at a different time interval based on the value in their counters, reducing the chances of contention.

As of claim 8, Bandy discloses that the memory memorizes the third information (via tag 102 memorizing a lot number; see fig. 3) and the IC tag sets either the second information or the third information as an initial value of the counter (note: Bandy discloses that if the third tag identifier does not resolve the contention, further reading can be done by adding more identification numbers in the tag (see col. 4, lines 7-12).

As of claim 9, Bandy discloses that the IC tag selects the second information or the third information by means of the mode switching portion and sets it as an initial value of the counter (via instruction interpreter 312 indicating which of the three numbers (tag ID, manufacture, lot number) are requested by the reader by telling the tag which of the read cycle is being performed) (see col. 5, lines 22-27).

As of claim 14, Bandy discloses a reading method for reading the first information from an IC tag having a memory (note: it is inherent that RFID tag have a memory to store the identification number and other data) which memorizes first information and second information (via Bandy discloses that a tag 102 have more than two information numbers, a tag ID number, a manufacture number and a lot number; see col. 3, lines 8-18; see fig. 3), and a memory address counter (via a counter/shift register 312, see fig 3) in which a count value thereof indicates a bit address of the first memory to the reception unit (via conter/shiftregister transmitting the response signal to the reader unit, during first read cycle, which is equal to the tag ID; see col. 7, lines 1-30), comprising:

transmitting a clock signal from the reception unit to the IC tag (via tag reader 104(see fig. 1,) transmitting a clock signal; see col. 1, lines 63-67).

setting the second information stored in the memory as an initial value of the memory address counter as an initial value of the counter (note: Bandy discloses that during the first read cycle clock increment instruction from the reader unit makes the tag to increment the counter 312 until the output matches the tag ID, see col. 6, lines 64-67 through col. 7, lines 1-11) ;

performing count-up or count-down of a count value of the counter according to the clock signal (see col. 1, lines 63-67); and

after the count value of the memory address counter reaches a specified code, transmitting the first information stored in the bit address of the first memory indicated with the count value successively to the reception unit (via tag transmitting the tag ID or manufacture number or lot number when the counter value matches any one of the tag ID or manufacture number or lot number (see col. 7, lines 12-33; also see col. 5, lines 4-20).

However Bandy fails to explicitly disclose that the second information control the time of transmission of the first information to the reception unit.

Heng discloses an IC tag (via transponder 1) which comprises a first information (via ID code 16; see fig. 8) and second information (via random number generator 12, generating a random number; see fig. 8, also see col. 4, lines 7-16). Heng discloses that the second information (random number) controls the time of transmission of the ID code to the interrogator 2 (via transponder 1 transmitting the ID code to the interrogator at the time when the counter value is equal the random number generated by the random number generator; see col. 4, lines 17-28).

From the teaching of Heng it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bandy to include use the second information to control the time of transmission of the first information to the reception unit as taught by Heng in order to avoid collision and expedite the process of interrogation.

From the teaching of Bandy and Heng, it can be seen that the tag uses the random number generator 12 to generate a random number and increments the counter 14 each time a slot marker signal is received from the interrogator (see Heng, col. 4, lines 7-14), hence setting the second information as an initial value of the memory address counter (counter 14) and counting up the counter 14. Bandy further discloses that the tag increments the counter 312 (see fig. 3) when it receives a clock signal from the interrogator (see fig. 5; also see col. 7, lines 1-10). Further the interrogator of Bendy transmits the clock signal continuously until the counter 312 reaches the specified number, in this case when the count in the counter matches the Tag ID (see col. 7, lines 5-10). However the combination of Bendy and Heng fails to explicitly disclose that the clock signal is transmitted by the interrogator using a carrier modulation signal modulated by a continuous clock signal.

Augenblick discloses a communication system, wherein an interrogator (via transmitter 12; see fig. 12), transmits a carrier modulated signal modulated by a clock signal (see col. 15, lines 66 through col. 16, lines 5).

From the teaching of Augenblick it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Bandy and Heng to include the step of transmitting the clock signal using a carrier modulated signal modulated by a clock signal as taught by Augenblcik in order to transmit the data and clock using a single signal.

Note: It is the Examiner's position that in view of Heng it would have been obvious to one having ordinary skill in the art to use a down counter instead of an up

counter, because that would simply be a design choice, because as taught in Heng, the first transponder 1A has a random number of two, the first transponder receives the two slot markers 3 from the interrogator 2 and each time one of the slot markers 3 is received, the first transponder counter is incremented by one, as soon as the first transponder's counter contains the same number of counts as the random number associated with the transponder, the transponder transmits its identification code (see col. 4, lines 20-27). This description suggests that the counter knows the number generated by random number, so it would have been obvious that the counter can count down from that number, whenever a slot marker is received and then the transponder can transmit the identification code, when counter reaches zero. In order to further support the Examiner's assertion, Barrett, discloses a communication system, wherein a tag contains an identification code (first information) and a pseudorandom generator containing second information (see fig. 5; also see abstract; also see col. 20, lines 5-25). Barret further discloses that the information in the pseudorandom generator is loaded into a down counter (memory address counter) and then the down counter is decremented with a clock signal, and the tag transmits the identification code of the tag when the down counter reaches zero (see col. 20, lines 55-66). Further note, since the random number in the random number generator is set into the down counter (memory address counter) down counter will have the same bit number as the random number generated by the random number generator. Barret further disclsoes that each tag will transmit at random intervals and it will avoid collision with the transmission from other IC tags (see col. 19, lines 10-25).

From the teaching of Barret it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Bandy and Augenblick to include the function of including a down counter as taught by Barret, so each tag will transmit at a different time interval based on the value in their counters, reducing the chances of contention.

As of claim 15, Bandy discloses that memory memorizes the third information and the second information is selected according to the mode switching signal and set up in the IC tag as an initial value of the counter (via sending the first read, second read and third read instruction to read tag ID, manufacture number and lot number respectively see col. 13, linesn14-24).

As of claims 22-24, Bandy discloses the IC tag wherein the first information is comprised of at least identification number and an error detection code for detecting an error in the identification number (note: Bandy discloses this function by tag having a tag ID and a error code in case the contention occurs. For example tag can transmit its error-code using checksum (see col. 3, lines 48-55) and wherein the second information is a random number (via storing the tag ID's or manufacture number and lot number at the time of manufacturing; see col. 3, lines 1-17) .

As of claims 25 and 26, Heng discloses that the second information is a random number (via random number generating a random number; see col. 4, lines 20-25).

As of claims 27-30, Heng discloses that the first information identifies the IC tag (via IC code 16 identifying the transponder; see col. 4, lines 15-16).

As of claim 31, Augenblick discloses that the remote station (tag) recognized a first clock of the clock signal when the carrier modulation signal continues to be a high level over a specific time, drops to a low level and returns to a high level after a specified time elapses (see fig. 6a, which shows that the clock signal is detected when the carrier signal is high and low within a specific time period; also see col. 5, lines 52-57 and col. 16, lines 35-39)

4. Claims 10 and 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bandy, in view of Heng, in view of Augenblick as applied to claim 7 above, and further in view of Raimbaul et al. (6,177,858).

As of claim 10, Bandy discloses all the elements of the claimed invention as mentioned in claim 9 above abut fails to explicitly disclose that the mode switching portion is a flip-flop.

Raimbault discloses an IC tag (via an electronic tag, fig. 1) wherein the mode-switching portion is a flip-flop (via electronic tag having a flip-flop in the logic circuit 4 to change the state of the tag; see fig.1, also see col. 7, lines 64-67 and col. 8, lines 1-7). Barret further discloses that the IC tag selects the second information according to a value of the flip-flops 204, 205, 206 and sets it as an initial value of the down counter (see col. 14, lines 55-65).

From the teaching of Raimbaul it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the tag of Bandy to include a flip-flop in order to make the transponder easily switch between the read mode and transmit mode (see col. 11 and 18).

As of claim 13, Bandy discloses the IC tag wherein the first information is comprised of at least identification number and an error detection code for detecting an error in the identification number (note: Bandy discloses this function by tag transmitting its ID and error code. For example tag can transmit its error-code using checksum (see col. 3, lines 48-55).

Response to Arguments

5. Applicant's arguments filed 2/16/10 have been fully considered but they are not persuasive.

As of claims 7 and 14, applicant argues that none of the cited reference disclsoes the limitations “wherein said memory address counter and the second information have the same bit number." The Examiner respectfully disagrees.

Claims 7 and 14 are rejected based on the combination of Bandy et al., Heng, Augenblick et al. and Barret.

Barrett, discloses a communication system, wherein a tag contains an identification code (first information) and a pseudorandom generator containing second information (see fig. 5; also see abstract; also see col. 20, lines 5-25). Barret further discloses that the information in the pseudorandom generator is loaded into a down counter (memory address counter) and then the down counter is decremented with a clock signal, and the tag transmits the identification code of the tag when the down counter reaches zero (see col. 20, lines 55-66). Further note, since the random number in the random number generator is set into the down counter (memory address counter) down counter will have the same bit number as the random number generated by the

random number generator. Barret further disclsoes that each tag will transmit at random intervals and it will avoid collision with the transmission from other IC tags (see col. 19, lines 10-25).

Based on the explanation given above, it is the Examiner's position that the combination of Bandy, Heng, Augenblick and Barret disclsoes the limitations claim in the present application.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /NABIL H. SYED/ whose telephone number is (571)270-3028. The examiner can normally be reached on M-F 7:30-5:00 alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on (571)272-3059. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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